

CHAPTER I

The Origins of Federal Flood Control Activity, 1849-1912

The history of federal flood control measures must be explained in the context of half-a-dozen major floods between 1849 and 1936 that moved Congress to pass legislation. The first significant federal flood control laws were the Swamp Land Acts of 1849 and 1850, which encouraged the reclamation of millions of acres of flood-prone wetlands, especially in the lower Mississippi Valley. A major Mississippi River flood in 1874 inspired a series of federal actions finally resulting in the creation of the Mississippi River Commission in 1879. Costly floods in the lower Mississippi Valley, the Northeast, and the Ohio Valley between 1907 and 1913 led to the establishment of the House Committee on Flood Control in 1916 and the Flood Control Act of 1917, the first act aimed exclusively at controlling floods. A gigantic flood on the Mississippi in 1927 substantially expanded federal flood control funding and raised public awareness to a new level. And, finally, the disastrous nationwide series of floods in 1935 and 1936 were critical in the passage of the Flood Control Act of 1936.

Of course, it would be highly simplistic to explain federal flood control policy in terms of responses to great floods. Certainly, floods affected the timing of federal actions, but the nature of the response-- the means adopted by Congress to deal with flooding -- still requires explanation. The very use of the term "flood control" as the goal of the federal government, rather than the more restrictive and accurate term "flood damage reduction," represents a more optimistic human, institutional, and political response to a set of natural, engineering, and economic problems.

It should be noted that no major federal response to flood destruction occurred until the beginning of the 20th century. Despite the long history of severe flooding by the nation's rivers in the 19th century, Congress passed no legislation that was directly and openly aimed at flood control until 1917 and under-

took no nationwide flood control program until 1936. There are several reasons for this. First, the national government's modest financial resources seemed to preclude federal financing of expensive flood control measures during the 19th century. Second, there were formidable engineering and economic obstacles to flood control by methods other than levees, such as reservoirs. Third, the relatively modest growth of cities along the nation's rivers kept flood damage fairly low until the end of the 19th or the beginning of the 20th century. Finally, many political leaders believed that federal aid for flood control was unconstitutional.

The constitutional issue periodically erupted in flood control debates until 1936. The framers of the Constitution appeared to agree that the federal government should not be allowed to spend tax dollars to make improvements that benefited only a particular locality. While the Constitution did not specifically prohibit federal funding of "internal improvements," neither did it categorically authorize them. Those wishing to see the development of a national system of roads and federally funded navigation improvements on the nation's rivers focused on Article I, Section 8, of the Constitution, the Commerce Clause, which gave Congress the authority "to regulate commerce ... among the several states." Supporters of internal improvements, such as John C. Calhoun and Henry Clay, argued that the right to regulate commerce meant the right to facilitate or aid in its movement by funding road and river navigation projects. Presidents Madison (in 1817) and Monroe (in 1822) disagreed, and they vetoed federal transportation bills. The issue was hotly contested until 1824, when, in the landmark decision of *Gibbons v. Ogden*, John Marshall's Supreme Court stretched the Commerce Clause to permit the federal government to finance and construct river improvements. This decision launched the federal government, including the U.S. Army Corps of Engineers, on a program of river improvements that began in the 1820s and continues today. Over the whole period the subject has pitted one locality and region against another amid cries of "pork barrel" spending and "log-rolling," with the Corps of Engineers often caught in between.¹

For reasons that have yet to be investigated adequately, the right of the federal government to improve navigation under the Commerce Clause was extended to flood control in a very slow, halting, and, it must be admitted, occasionally disingenuous

manner; sometimes projects were authorized under the guise of navigation improvement when everyone in Congress knew the work was also for flood control. Until the Progressive Era of the early 20th century, many, perhaps most, congressmen continued to believe that federal flood control projects (except perhaps on the Mississippi) were unconstitutional. They suggested that the aid to navigation from levees or dams was small compared to the enormous local benefits received by residents and property owners in the protected area. This issue arose repeatedly between the 1870s and 1917 in regard to the federal expenditures for levees along the Mississippi. However, these expenditures were viewed less rigidly from a constitutional perspective, because many believed that the Mississippi was uniquely national. Some politicians went so far as to contend that the Mississippi was actually a piece of federal property, and Congress had the responsibility to protect residents and navigation interests alike against the onslaught of the river's periodic floods. Those who advocated this position often referred to Article IV, Section 3, of the Constitution, which states that "the Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States."

By the time Congress established the Inland Waterways Commission (1909) and the Committee on Flood Control (1916) and passed the Flood Control Act of 1917, its traditional reluctance to spend federal funds for local benefits was weakened but not dead. It continued to enter into discussions right up until passage of the 1936 act.² As one of the leading authorities on water resources law recently stated, the federal government has taken "a rather attenuated construction" of the Commerce Clause promulgated in 1824 and used "this somewhat flimsy-looking, but by no means shaky structure for a foundation.. [for] a huge program of river regulation and water control."³

The result of the constitutional controversy over the Commerce Clause and internal improvements was legislation relating to navigation improvements, which was promptly passed, while flood control legislation received indirect and limited attention. Passed partially in response to severe flooding in the lower Mississippi Valley in 1849, the Swamp Land Acts of 1849 and 1850 transferred "swamp and overflow land" to most of the states along the lower Mississippi on condition that the revenue

the states obtained from selling the land be used to build levees and drainage channels. The acts required no expenditure of federal funds, but they provided a means to put millions of acres of land into agricultural use.⁴

The emergence of the flood control issue at that time appears linked to the increasing burden of levee construction along the river, the frustrations of coordinating plans among various state and local interests, increasing commerce on the river, and the growth of various towns along the Mississippi. The building of levees along the Mississippi had begun in New Orleans in 1717 and had proceeded in fitful spurts up and down the Mississippi and its tributaries. Until the 1840s and 1850s the work, expensive and difficult, was largely the responsibility of the riparian landowners. By the 1840s it had become evident that a more coordinated approach was needed in order to spread the cost and work more equitably. Consequently, the delta states created public levee districts. While a distinct improvement over the earlier reliance on individual landowners, these districts still faced formidable financial and engineering challenges. They joined navigation interests in looking to Washington for help. John C. Calhoun, a man familiar with the problems of levee construction, called for federal aid at the Memphis Commercial Convention of 1845. Mississippi Valley politicians echoed Calhoun's call on countless subsequent occasions.⁵

Aside from passage of the Swamp Land Acts, the federal government's response to the floods of 1849 and 1850 was relatively modest. However, one act was passed that was to have an unforeseen and substantial impact on flood control development. This was an 1850 act that appropriated \$50,000 for a "topographical and hydrographical survey of the Delta of the Mississippi, with such investigations as may lead to determine the most practicable plan for securing it from inundation." The appropriation was eventually split in order to fund two separate surveys: one by Charles Ellet, Jr., a well-known civil engineer, and the other by Captain A.A. Humphreys and Lieutenant H.L. Abbot of the U.S. Corps of Topographical Engineers.

Ellet's report was published in 1852 and immediately created a controversy because of the author's contention that tributary reservoirs could effectively contribute to flood control hundreds of miles distant on the lower Mississippi. The larger and more influential Humphreys-Abbot report was not completed until

1861. In it the authors emphatically stated that only levees could solve the flood control problem on the lower Mississippi. When Humphreys became Chief of Engineers in 1866, he labored constantly to quash opposition to the “levees only” policy, and it became the gospel for the Corps of Engineers for over 60 years, until the 1927 Mississippi River flood decisively showed its limitations.⁶

Between 1866 and 1926, the Corps investigated the flood problems on many of the nation’s rivers — and as in 1850 -- often in response to some particularly disastrous flood. Nearly always, these investigations were labeled navigation surveys. The surveys dutifully discussed, often in great detail, how some wild and rocky river could be improved for navigation. Then, as a sort of lagniappe, a brief survey and discussion of flood control measures that might be undertaken by local interests was added. If the only solution was a reservoir system, Corps reports seldom judged the project to be practical from either an engineering or economic standpoint.

The use of dams for flood control was often suggested, but the idea seemed impracticable to most people. Furthermore, dam failures such as the one at Johnstown, Pennsylvania, in 1889 that killed more than 2,000 people created public skepticism over this type of protection. The Pittsburgh Flood Commission Report of 1912 was the first effort to interest the federal government in funding a reservoir system for flood control. And the first conclusive proof that such a system could work did not come until the completion of the Miami Valley Conservancy District in 1923 — only 13 years before the passage of the 1936 Flood Control Act.⁷

Meanwhile, the problems of floods on the Mississippi River — the “nation’s highway” as some politicians called it — continued to elicit federal interest but very little agreement on what the federal role ought to be. After the Civil War, which resulted in the neglect, deterioration, and destruction of hundreds of miles of levees, President Andrew Johnson, Secretary of War Edwin Stanton, and various congressmen spoke in favor of federal levee aid. A number of bills were introduced for this purpose, but none made it through the congressional committees; and the postwar flurry of interest waned as states and local levee districts renewed their own efforts.⁸

The Mississippi flood of 1874 stirred Congress again. It

appropriated \$90,000 for flood relief and authorized another Corps of Engineers study. The study stated that while local efforts to build levees were heroic, they were uncoordinated and inadequate. Congress was still reluctant to act, and it was not until 1879 that it finally created a Mississippi River Commission (MRC) to identify and implement the most satisfactory flood control plan possible in order to improve navigation and protect population and property.⁹ In accordance with the authorizing statute, the MRC consisted of seven members: three officers from the Corps of Engineers, three civilians, and one employee of the Coast and Geodetic Survey. With some modifications, commission members eventually adopted the “levees only” policy of Humphreys and Abbot as their own plan.

Despite nagging legal and constitutional questions, Congress allowed the MRC to move gradually into a full-scale campaign to control the river. Periodic floods forced the congressional hand, as it became increasingly clear that only a substantial federal commitment would solve flood problems along the lower Mississippi. The first congressional appropriations for levee construction were emergency relief measures, but even these repairs were justified as navigation improvements. However, by the turn of the century, the MRC was engaged in full-scale levee construction, dredging, and revetment work. Congressional proponents of openly avowed flood control whittled away at the wording of the rivers and harbors acts, dropping the specific prohibition of flood control that had appeared in every commission appropriation since 1881 and inserting a phrase stating that funds could be used for “the general improvement of the river” and other language implying the goal of flood control.¹⁰ By 1912 the MRC was plainly stating that “the main purpose” of its levee construction program was “to protect the alluvial lands and their owners” from floods.¹¹

Once again, however, the river became an issue in Congress. It was reported in the *Congressional Record* that the federal government had spent \$30 million on Mississippi River levees during the years 1882 to 1916 and that local levee districts had spent approximately \$90 million during the same period.¹² The results were impressive. The levee system, which had contained 33 million cubic yards of earth in 1882, now contained approximately 250 million cubic yards. Unfortunately, the floods of 1912 and 1913, the worst yet seen on the river, showed that the levees

still were not strong or extensive enough. Property losses from these floods were estimated at \$61 million, and over 270,000 people were driven from their homes.¹³ The federal government was now caught in a dilemma. The Mississippi River levee districts said they had taxed and borrowed themselves to the limit and were unable to continue bearing the financial costs necessary to strengthen the levees. But they, along with almost all state and local officials in the Mississippi Valley, agreed with the Corps of Engineers that levees were the only reasonable hope for containing the river's ever higher crests. Either Congress would have to bear a much larger share of the cost of levee building or the system would have to be abandoned. Millions of acres of rich farmland would revert to swamp, and the millions of tax dollars already spent on the levees would have been wasted.¹⁴